Remarks

Claims 6-10 and 16-20 stand rejected under 35 USC §112 with respect to the "live pipe" as helpfully mentioned by the Examiner. As also noted in the rejection, "live" is a typographical error which should read "line." The Applicants have therefore amended Claims 6-10 to correct the typographical error. Withdrawal of the rejection is respectfully requested.

The claims have further been amended to recite that the stainless steel pipe is a stainless steel seamless pipe. Support may be found throughout the Applicants' Specification such as on page 13 in paragraph [0041] and on page 14 in the Applicants' Specification in paragraphs [0042] to [0043]. Entry into the official file is respectfully requested.

Claim 1 has been cancelled. Claims 2 and 4 have been amended to change the amount of Ni from 3%-8% to 4%-7%. Claims 2 and 4 have been amended into independent form in view of the cancellation of Claim 1. Claims 6 and 11 have been cancelled in view of their dependence on Claim 1. Also, Claim 7 has been amended to depend on Claim 2.

Claims 1-20 stand rejected under 35 USC §103 as being obvious over Kimura. The Applicants note with appreciation the Examiner's detailed comments hypothetically applying Kimura against Claims 1-20. The Applicants respectfully submit, however, that Kimura is inapplicable. Details are set forth below.

The Applicants' independent Claims 2 and 4 refer to the content C_{sol} as being equal to or less than 0.0050%. In other words, the amount of soluble carbon is less than or equal to 0.0050%. The Applicants respectfully submit that Kimura does not disclose, teach or suggest the Applicants' claimed amount of soluble carbon. Careful scrutiny of the entire Kimura document reveals that there is no such appreciation for that claimed aspect.

The Applicants respectfully submit that the Applicants' claimed amount of soluble carbon is also not inherent from Kimura. As those skilled in the art well know, the characteristics of steel may be determined not only by the compositional elements, but also by the manner in which the steels are made. In this case, the Applicants provide detailed teachings as to how their seamless stainless steel pipes are made. In that regard, the Applicants invite the Examiner's attention to page 14 of the Substitute Specification which provides such details. This is sharply contrasted to Kimura which has a very limited discussion of the manner in which the Kimura steels are made. The Applicants invite the Examiner's attention to column 5 of Kimura, beginning at line 36 and extending through line 41, which contains limited amount of discussion of the methodology. It can therefore be seen that there are endless possibilities as to the differences in which the Applicants manufacture their stainless steel seamless pipes versus those of Kimura.

In establishing inherency, it is necessary that the rejection establish that the inherently present claimed aspect must "necessarily" be present. It is not enough that the claimed aspect might be present, could be present or even is likely present. The standard for establishing inherency is quite high as shown in MPEP §2112 and the claimed aspect at issue must "necessarily" be present.

The Applicants respectfully submit that the uncertainty associated with the manner in which the Kimura steels are made versus the detailed explanation of how the Applicants' steels are made provides a mystery to those skilled in the art such that those skilled in the art could not "necessarily" say that the Applicants' claimed amount of soluble carbon would or even could be present. There are any number of factors in the method of making the steels of Kimura beyond the gross amount of carbon present in the steel that would determine whether the amount of

soluble carbon in the steel is "necessarily" present in the steels of Kimura. It is simply not possible to know given the many variables and the very limited Kimura disclosure.

The technical concept concerning C_{sol} which is a necessary condition of Claims 2 and 4 is not disclosed in Kimura. It is noted as evidence to prove the foregoing that the whole values of N and C_{sol} in Tables 1 and 3 of the inventive examples in Kimura are outside the range of Claims 2 and 4 (indicated in yellow).

Concerning N in particular, imposing the limitation of N to less than 0.01%, while amazingly leaving production costs out of consideration, is not suggested in Kimura. Further, although No. 4 in Table 1 of Kimura contains almost the same component of Steel No. O of the Applicants' Comparative examples, because C_{sol} is outside of the range, resistance to intergranular stress corrosion cracking occurring in heat-affected zones is evaluated as X and, therefore, No. 4 in Table 1 of Kimura is unable to accomplish the results as does Claims 2 and 4. Thus, the Applicants respectfully submit that Kimura is inapplicable to Claims 2, 5, 7-10 and 12-20. Withdrawal of the rejection is respectfully requested.

Claims 1-20 stand rejected under 35 USC §103 as being obvious over Suzuki. The Applicants respectfully submit that Suzuki is inapplicable for the reasons set forth below.

First and foremost, Suzuki is directed to seam welded pipes. This is sharply different from the Applicants' seamless pipes which are made completely differently from those of Suzuki. The Applicants respectfully submit that the welding step associated with the seam welded pipe introduces an entirely new level of concerns to the characteristics of the resulting seam welded pipe. As a result, different method steps must be applied to those pipes. Thus, even though Suzuki provides a large amount of discussion with respect to methodology, one

skilled in the art would not look to Suzuki with respect to seam welded pipes in developing the Applicants' claimed seamless pipes. Thus, Suzuki is inapplicable on this basis alone.

Nonetheless, as mentioned above, Suzuki does devote a significant amount of time to discussing methodology. For example, such methodology discussion begins near the top of column 6 and extends through the middle of column 8. However, it can be seen that the methodology applied to the steels prior to forming the seam welded pipe is not the same as the Applicants' methodology in forming their seamless pipes. Moreover, the steps applied to the weld of the Suzuki seam welded pipes do not apply to the entire pipe, but instead are applied to the weld and are therefore also inapplicable.

Suzuki assumes an electric resistance welded pipe while, in contrast, Claims 2 and 4 are directed to seamless pipe. Thus, Claims 2 and 4 are novel. Furthermore, although the range of Ni of Suzuki is 4% or less, this deviates from Claims 2 and 4. Withdrawal of Suzuki is respectfully requested.

Claims 1-20 stand rejected under 35 USC §103 as being obvious over Miyata. The Applicants again note with appreciation the Examiner's detailed comments hypothetically applying Miyata against the claims. The Applicants nonetheless respectfully submit that Miyata is inapplicable.

As mentioned above with respect to Kimura, the Applicants respectfully submit that Kimura fails to disclose the Applicants' claimed amount of soluble carbon. Careful scrutiny of the entire document reveals that there simply is no such appreciation for that claimed aspect. As such, the Applicants respectfully submit that Miyata is inapplicable.

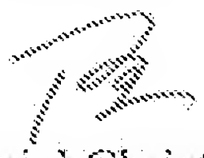
However, the Applicants respectfully submit that Miyata does not provide teachings that would lead one skilled in the art to believe that the Applicants' claimed amount of soluble carbon

is inherently present in the Miyata steels and pipes. That is because Miyata, like Kimura and Suzuki, manufacture their steel pipes in a completely different way. For example, the Applicants specify that their steel pipes are subjected to cooling at a cooling rate greater than an air-cooling rate. This is the opposite of the teachings of Miyata such as those discussed in column 5, lines 24-26, which recite that quenching (Q) is achieved by "normal air-cooling." As those skilled in the art are well aware, methodology of making steels can have a serious impact on the characteristics of those steels. Thus, irrespective of the raw amount of carbon present in the Miyata steels, there is no teaching in Miyata that would lead one skilled in the art to reasonably believe that the amount of soluble carbon would "necessarily" be present in the Miyata steel/ pipes that would meet the high burden for establishing inherency.

Miyata also discloses the range of Ni as 2.0 to 3.0%. This is out of the Applicants' range in Claims 2 and 4. As a consequence, the Applicants respectfully submit that Miyata is inapplicable. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC/vp
(215) 656-3381

Comparative Table

outside the range of the amended claim 4

the range of the amended claim 4

		C	Si	Mn	P	S	Cr	Ni	Al	N	Mo	Cu	Co	W	Ti	Nb	V	Zr	Ca	Hf	Te	Mg	REM	B	O	C-sol
	lower limit		0.05	0.1			10	3	0.001								0.02		0.0005							
	upper	0.01未満	1.0	2.0	0.03	0.010	14	8	0.10	0.01未満	4	4	4	4	0.15	0.10	0.10	0.10	0.010	0.20	0.20					0.0050

A:US5085209

	No.	C	Si	Mn	P	S	Cr	Ni	Al	N	Mo	Cu	Co	W	Ti	Nb	V	Zr	Ca	Hf	Te	Mg	REM	B	O	C-sol
Table1	1	0.010	0.25	0.44			12.10	3.86	0.02	0.023	1.02	0.49														0.0162
	2	0.014	0.26	0.47			12.9	4.06	0.02	0.047	0.95															0.0274
	3	0.013	0.24	0.45			13.1	4.17	0.02	0.025	0.52	0.50				0.047										0.0231
	4	0.005	0.25	0.45			12.2	5.12	0.02	0.030	2.02							0.016								0.0075
	5	0.009	0.25	0.44			10.7	1.47	0.02	0.018	1.55															0.0143
	6	0.008	0.23	0.46			11.2	1.38	0.02	0.022	0.91	0.51									0.031					0.0143
	7	0.014	0.21	0.51			11.0	0.56	0.02	0.021	1.47	0.24							0.002							0.0274
	8	0.016	0.20	0.50			11.9	3.95	0.02	0.031	2.24				0.022											0.0173
	9	0.007	0.20	0.50			11.5	3.53	0.01	0.012	1.56						0.012									0.0101
	10	0.013	0.21	0.51			12.1	4.07	0.02	0.031	1.93				0.043	0.015										0.0182
	11	0.008	0.19	0.49			11.8	4.79	0.03	0.015	3.95					0.020		0.035								0.0111
	12	0.027	0.21	1.49			11.8	0.99	0.02	0.026	0.38	0.58														0.0330
	13	0.015	0.19	1.51			11.9	0.98	0.02	0.033	1.14															0.0271
	14	0.011	0.20	1.53			9.2	1.30	0.03	0.012	0.90															0.0110
	15	0.015	0.19	1.50			13.1	0.75	0.02	0.021	0.37	0.45				0.025										0.0146
	16	0.011	0.22	1.48			12.1	0.61	0.02	0.013	0.91															0.0117
	17	0.019	0.19	1.51			11.9	1.66	0.02	0.035	1.43															0.0242
	18	0.010	0.22	1.49			10.5	1.28	0.02	0.013	1.22					0.014										0.0154
	19	0.015	0.23	1.49			11.7	1.10	0.03	0.011	0.37															0.0181
	20	0.019	0.19	1.50			11.1	0.85	0.02	0.017	0.11															0.0234
Table3	1	0.016	0.22	0.45			12.3	4.26	0.02	0.024	0.89					0.010	0.062									0.0190
	2	0.019	0.25	0.47			12.3	3.86	0.02	0.047	1.01	0.24					0.094									0.0210
	3	0.019	0.23	0.42			12.2	2.25	0.02	0.023	0.96				0.047	0.016	0.052									0.0115
	4	0.006	0.24	0.43			13.2	4.31	0.02	0.026	2.15						0.066	0.016								0.0113
	5	0.013	0.25	0.44			12.2	6.16	0.02	0.035	1.81						0.054									0.0189
	6	0.017	0.23	0.49			12.6	2.42	0.02	0.023	0.89	0.51				0.038	0.042				0.031					0.0254
	7	0.009	0.24	0.42			12.6	4.55	0.02	0.03	1.60	0.24				0.042	0.05		0.002							0.0256
	8	0.015	0.23	0.46			12.7	3.56	0.02	0.014	0.84				0.022		0.1									0.0137
	9	0.008	0.23	0.48			12.3	3.75	0.02	0.012	1.44					0.023	0.074	0.012								0.0087
	10	0.011	0.25	0.53			12.7	4.51	0.02	0.021	1.52				0.043	0.043	0.086		0.005							0.0179
	11	0.019	0.23	0.49			11.8	5.59	0.02	0.015	2.63						0.139									0.0112
	12	0.008	0.21	0.53			11.9	0.73	0.02	0.026	0.38	0.58				0.057	0.047									0.0235
	13	0.013	0.24	0.44			11.9	2.65	0.02	0.053	1.14					0.007	0.064									0.0230
	14	0.011	0.25	0.43			9.2	2.51	0.02	0.012	0.06					0.006	0.009									0.0110
	15	0.013	0.22	0.50			12.2	3.28	0.02	0.021	0.37	0.45			0.025	0.035	0.026									0.0146
	16	0.011	0.22	0.49			12.3	0.61	0.02	0.013	0.41					0.004	0.01									0.0144
	17	0.019	0.27	0.51			12.1	4.62	0.01	0.035	1.43					0.020	0.066									0.0254
	18	0.010	0.22	0.50			10.3	3.42	0.02	0.013	1.22				0.014	0.018	0.05									0.0150

19	[illegible]	0.21	0.57			11.8	[illegible]	0.03	[illegible]	0.37					0.076	0.066								[illegible]
20	[illegible]	0.20	0.52			12.4	[illegible]	0.02	[illegible]	0.11					0.007	0.044								[illegible]

B:US5820703

Table1	No.	C	Si	Mn	P	S	Cr	Ni	Al	N	Mo	Cu	Co	W	Ti	Nb	V	Zr	Ca	Hf	Ta	Mg	REM	B	O	C-sol
	1	0.010	0.35	0.66	0.013	0.002	12.18	[illegible]	0.07	0.006																[illegible]
	2	0.007	0.33	0.79	0.013	0.002	11.87	[illegible]	0.03	0.006		0.51														[illegible]
	3	0.011	0.16	0.61	0.021	0.003	12.95	[illegible]	0.12	0.007																[illegible]
	4	0.008	0.17	0.56	0.010	0.003	12.03	[illegible]	0.04	[illegible]			0.31		0.15											−0.0017
	5	0.010	0.10	1.55	0.010	0.002	13.25	[illegible]	0.04	[illegible]		1.55	0.48													[illegible]
	6	0.005	0.11	0.15	0.011	0.004	12.11	[illegible]	0.04	0.008	0.00				0.00											[illegible]
	7	0.008	0.12	0.49	0.010	0.002	[illegible]	[illegible]	0.06	0.008	1.53				0.01											[illegible]
	8	0.007	0.12	0.48	0.005	0.002	[illegible]	[illegible]	0.03	0.007	0.00				0.00	[illegible]	0.07									0.0024
	9	0.008	0.21	0.52	0.007	0.001	12.22	[illegible]	0.09	0.005	0.53	1.50		1.10	0.01											[illegible]
	10	0.012	0.21	0.13	0.015	0.001	12.06	[illegible]	0.10	[illegible]	0.49		2.00		0.00											[illegible]
	11	0.009	0.10	0.52	0.014	0.001	11.53	[illegible]	0.02	0.009	0.94				0.00	[illegible]										[illegible]
	12	0.006	0.12	0.33	0.015	0.002	11.90	[illegible]	0.03	0.008	0.61			0.33	0.01				0.005							[illegible]
	13	0.057	0.32	0.26	0.013	0.005	12.51	[illegible]	0.06	0.024	0.00				0.00											[illegible]
	14	0.011	0.33	0.48	0.011	0.004	11.99	[illegible]	0.22	[illegible]	0.52				0.01	[illegible]										[illegible]
	15	0.011	0.28	0.22	0.009	0.004	[illegible]	[illegible]	0.05	[illegible]	0.00			0.22	0.01											[illegible]
	16	0.180	0.36	0.48	0.018	0.002	12.33	[illegible]	0.05	[illegible]	0.00				0.00											[illegible]
	17	0.007	0.30	0.41	0.015	0.004	12.24	[illegible]	0.05	0.006	0.00				0.01											[illegible]

C:US6464802

Table1	No.	C	Si	Mn	P	S	Cr	Ni	Al	N	Mo	Cu	Co	W	Ti	Nb	V	Zr	Ca	Hf	Ta	Mg	REM	B	O	C-sol
	1	0.012	0.410	1.51	0.023	0.0031	11.8	[illegible]		[illegible]																[illegible]
	2	0.005	0.210	1.63	0.014	0.0041	10.8	[illegible]		0.006																[illegible]
	3	0.007	0.190	1.21	0.019	0.0013	11.1	[illegible]		[illegible]							[illegible]									[illegible]
	4	0.011	0.220	[illegible]	0.015	0.0023	13.3	[illegible]		[illegible]							0.081									[illegible]
	5	0.013	[illegible]	1.13	0.020	0.0008	12.0	[illegible]		0.008		0.75						0								[illegible]
	6	0.009	0.200	1.25	0.018	0.0025	10.9	[illegible]		[illegible]		0.51					0									[illegible]
	7	0.010	0.250	1.25	0.016	0.0017	11.3	[illegible]		0.008		0.43					0.071									[illegible]
	8	0.008	0.150	1.75	0.017	0.0015	10.9	[illegible]		0.009		0.63					0.045									[illegible]
	9	0.011	[illegible]	1.41	0.025	0.0051	10.8	[illegible]		[illegible]							0	0.081								[illegible]
	10	0.009	0.200	1.63	0.014	0.0018	11.2	[illegible]		[illegible]					0.091	0.05	0	0.032			0.044					0.0045
	11	0.012	0.260	1.33	0.019	0.0022	12.1	[illegible]		0.008							0.091				0.031					[illegible]
	12	0.010	0.220	1.50	0.022	0.0018	11.3	[illegible]		0.009		0.47			0.071		0.038									[illegible]
	13	0.025	0.230	[illegible]	0.017	0.0023	10.9	[illegible]		[illegible]		0.41					0									[illegible]
	14	0.011	0.810	1.13	0.023	0.0019	12.1	[illegible]		[illegible]					0.071		0.051									[illegible]
	15	0.012	0.180	1.51	0.02	0.0020	[illegible]	[illegible]		[illegible]		0.47			0.081		0.047									[illegible]
	16	0.009	0.290	1.52	0.018	0.0039	[illegible]	[illegible]		0.009		0.67					0									[illegible]
	17	0.013	0.140	1.75	0.021	0.0041	12.1	[illegible]		0.008					0.065		0.061	0.071								[illegible]
	18	0.012	0.220	1.20	0.019	0.0029	11.2	[illegible]		0.025							0				0.051					[illegible]
	19	0.009	0.280	[illegible]	0.023	0.0022	11.7	[illegible]		[illegible]		1.30					0.038									[illegible]
	20	0.010	0.340	1.30	0.013	0.0025	11.2	[illegible]		[illegible]					[illegible]		0.041									−0.0174
	21	0.008	0.250	1.56	0.025	0.0018	11.5	[illegible]		[illegible]		0.33			[illegible]		0.034	0.081			0.072					−0.0060